



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,080	02/08/2002	Donald L. Schilling	I-2-72.3US	9985

24374 7590 06/09/2004
VOLPE AND KOENIG, P.C.
DEPT. ICC
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

EXAMINER

HSU, ALPUS

ART UNIT PAPER NUMBER

2665

DATE MAILED: 06/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/072,080

Applicant(s)

SCHILLING, DONALD L.

Examiner

Alpus H. Hsu

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Art Unit: 2665

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the intermediate step of spread spectrum modulation of message-chip-code signal between steps 407 and 409, and the intermediate step of receiving the spread-spectrum-communications signal between the steps 411 and 413/415 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The claimed "reference signal" as in claims 1, 2, 5, 9 and 12 does not have proper antecedent basis in the specification disclosure.
3. Claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The claimed features of "a spread spectrum communication method and system for producing a reference signal, producing a message signal having message data, combining the reference signal and the message signal as a combined signal, transmitting the combined signal as a combined spread spectrum signal, receiving the combined spread spectrum signal, detecting the reference signal within the received combined spread spectrum signal, recovering a carrier signal from the combined spread spectrum signal, and recovering the message data using the

Art Unit: 2665

recovered carrier signal” were not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. To be more specific, according to the detailed description of Figures 2 and 4, at the transmitter, it is the generic-chip-code signal and message-chip-code signal produced from message data synchronized to the generic-chip-code signal are generated. Message data are then processed with the message-chip-code signal to generate a spread-spectrum-processed signal using a spread-spectrum modulator. The spread-spectrum-processed signal is then combined with the generic-chip-code signal to form a combined generic-chip-code signal and spread-spectrum-processed signal to be transmitted on a carrier signal over the communication channel as a CDMA signal (see page 15, lines 5-13). At the receiver, it is the carrier signal recovered from generic-chip-signal within the received CDMA signal and the modulated data signal despread from the spread-spectrum-communications signal and synchronized with the recovered carrier signal to recover the message data by synchronous demodulation of the modulated data signal (see page 15, lines 14-18). None of the claimed inventions are corresponding to any part of the disclosure as indicated above. Therefore, all claims are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement since all claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

4. Claims 1-4, 9-11 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the spread spectrum processing

Art Unit: 2665

means to produce the combined spread spectrum signal as in claims 1 and 9, and the combined spread spectrum signal receiving means and the carrier signal recovering means as in claim 9.

5. Claims 5-8, 12-14 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the spread spectrum processing step to produce the combined spread spectrum signal as in claims 5 and 12.

6. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 6, claim 5, line 6, claim 9, line 6, claim 12, line 6, it is unclear as to how each of "the combined spread spectrum signal" are produced.

In claim 2, line 3, "the reference signal" should read as --the detected reference signal--.

In claim 9, line 9, "the recovered carrier signal" lacks antecedent basis.

7. Claims 1-8 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5, 7, 8 and 6 of copending Application No. 10/071,728. Although the conflicting claims are not identical, they are not patentably distinct from each other because by reducing a plurality of input message signals into a single input message signal, it would have been obvious to one of ordinary skill in the art to make the same invention as claimed from the copending Application No. 10/071,728.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or

Art Unit: 2665

improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 2, 5, 6, 9 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by COWART in U.S. Patent No. 4,979,183 (cited by the applicant of record).

Referring to claim 1, COWART discloses a spread spectrum communication system comprising: means for producing a reference signal (24 and 39), means for producing a message signal having message data (21), means for combining the reference signal and the message signal as a combined signal (29), means for transmitting the combined signal as a combined spread spectrum signal (29), means for receiving the combined spread spectrum signal (28), means for detecting the reference signal within the received combined spread spectrum signal (61), and means for recovering the message data using the detected reference signal (38).

Referring to claim 2, COWART discloses means for recovering a carrier signal from the combined spread spectrum signal using the detected reference signal (32), wherein the message data recovering means uses the recovered carrier signal to recover the message data.

Art Unit: 2665

Referring to claim 9, COWART discloses a spread spectrum communication system comprising: means for producing a reference signal (24 and 39), means for producing a message signal having message data (21), means for combining the reference signal and the message signal as a combined signal (29), means for transmitting the combined signal as a combined spread spectrum signal (29), means for receiving the combined spread spectrum signal (28), means for recovering a carrier signal from the combined spread spectrum signal using the detected reference signal (32), and means for recovering message data using the recovered carrier signal (38).

Referring to claim 5, COWART discloses a method for use in a spread spectrum communication system comprising the steps of: producing a reference signal (col. 7, lines 56-61, col. 9, lines 26-30), producing a message signal having message data (col. 6, lines 30-33), combining the reference signal and the message signal as a combined signal (col. 9, lines 63-65), transmitting the combined signal as a combined spread spectrum signal (col. 9, lines 63-65), receiving the combined spread spectrum signal (col. 8, lines 49-54), detecting the reference signal within the received combined spread spectrum signal (col. 8, lines 31-37), and recovering the message data using the detected reference signal (col. 8, lines 37-42).

Referring to claim 6, COWART discloses the step of recovering a carrier signal from the combined spread spectrum signal using the detected reference signal (col. 8, lines 31-37), wherein the message data is recovered uses the recovered carrier signal.

Referring to claim 12, COWART discloses a method for use in a spread spectrum communication system comprising the steps of: producing a reference signal (col. 7, lines 56-61, col. 9, lines 26-30), producing a message signal having message data (col. 6, lines 30-33),

Art Unit: 2665

combining the reference signal and the message signal as a combined signal (col. 9, lines 63-65), transmitting the combined signal as a combined spread spectrum signal (col. 9, lines 63-65), receiving the combined spread spectrum signal (col. 8, lines 49-54), recovering a carrier signal from the combined spread spectrum signal using the detected reference signal (col. 8, lines 31-37), and recovering message data using the recovered carrier signal (col. 8, lines 37-42).

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 3, 4, 7, 8, 10, 11, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over COWART in U.S. Patent no. 4,979,183 in view of GILHOUSEN et al. in U.S. Patent No. 5,101,501 (both cited by the applicant of record).

Referring to claims 3, 7, 10 and 13, COWART differs from the claims in that it does not teach the combined spread spectrum signal is in a code division multiple access format, which is well known in the art and commonly applied in communications field. GILHOUSEN et al., for example, from the similar field of endeavor, discloses a spread spectrum signal in a code division multiple access format (col. 3, line 45 to col. 4, line 3) for data transmission. Therefore, it would have been obvious to a person with ordinary skill in the art at the time of the invention to incorporate the specific spread spectrum signal in a code division multiple access format of GILHOUSEN et al. into the system and method of COWART to achieve the advantage of CDMA communication for the purpose of increasing the system performance.

Art Unit: 2665

Referring to claims 4, 8, 11 and 14, COWART differs from the claims in that it does not teach the uses of base station and mobile station for transmitting and receiving the combined spread spectrum signal, which is also well known in the art and commonly applied in wireless communications field. GILHOUSEN et al., for example, from the similar field of endeavor, discloses the uses of base station and mobile station for transmitting and receiving the spread spectrum signal in a code division multiple access format (col. 3, line 45 to col. 4, line3) for data communication between data communication devices. Therefore, it would have been obvious to a person with ordinary skill in the art at the time of the invention to incorporate the uses of base station and mobile station for transmitting and receiving the spread spectrum signal in a code division multiple access format of GILHOUSEN et al. into the system and method of COWART to achieve the advantage of wireless communication for the purpose of improving the system capability and adoptability.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mifflin et al., Osborne, Gutleber, Simpson et al., Cowart '180 & '683, Briskman, and . Ling are all cited to show the common feature of spread spectrum communication system utilizing code generator, modulator/demodulator and combiner/divider and transmitter/receiver similar to the claimed invention.

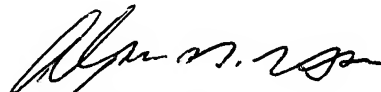
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alpus H. Hsu whose telephone number is (703)305-4377. The examiner can normally be reached on M-F (5:30-3:00) First Friday Off.

Art Unit: 2665

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D. Vu can be reached on (703)308-6602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AHH



Alpus H. Hsu
Primary Examiner
Art Unit 2665